WHAT IS CLAIMED IS:

1. A method for capture of a fingerprint image as a finger is rolled across a platen surface, comprising the steps of:

(a) capturing a plurality of fingerprint image frames, each captured frame including pixel data representative of a print on the platen surface at a time of capture as the finger is rolled across the platen surface; and

(b) combining said plurality of captured fingerprint image frames into a composite fingerprint image;

wherein said combining step includes at least partially blending pixel data in successive frames as a function of roll speed of the finger across the platen surface.

2. The method of claim 1 wherein said combining step includes the further step of identifying at least one boundary region in a plurality of captured fingerprint image frames and blending pixel data in said boundary region.

3. The method of claim 2 wherein said blending uses a blending function to calculate for said composite fingerprint image a pixel value for a number of pixels in said boundary region, said pixel value based on the values of a plurality of corresponding pixels in said plurality of fingerprint image frames, where said number of pixels varies with said roll speed of the finger.

4. The method of claim 3 wherein said blending function assigns a variable weight to a corresponding pixel value from an adjacent frame depending on distance of the pixel from a frame boundary.

5. The method of claim 3 wherein said blending is applied to determine the value of a majority of pixels in said boundary region.

6. The method of claim 1 wherein in said step of capturing a plurality of fingerprint image frames, said frames are captured periodically at equal intervals t as the finger is rolled across the platen surface.

7. The method of claim 6 comprising the further steps of:

identifying, within each fingerprint image frame, a subset region containing the fingerprint image; and

determining said roll speed based on the relative change in location of said subset regions between one captured fingerprint image frame selected as a roll speed reference frame, and a fingerprint image frame captured after capture of said roll speed reference frame.

8. A method for generating a composite fingerprint image in a rolled fingerprint capture system, comprising the steps of:

(a) capturing a first fingerprint image frame and a second fingerprint image frame as a finger is rolled across an imaging surface;

(b) identifying at least one boundary pixel representing corresponding fingerprint image data appearing in both the first and second image frames; and

(c) assigning a blended value to said boundary pixel where said blended value is a function of the values of corresponding pixels in said first and second fingerprint image frames and roll speed of the finger across the imaging surface during said capturing step; and

(d) combining said first and second fingerprint image frames into a composite fingerprint image incorporating said blended value for said boundary pixel.

9. The method of claim 8 wherein said step of assigning a blended value includes applying a blending function that assigns a variable weight to pixel data from said first and second frames depending on distance of the pixel from a frame boundary.

10. The method of claim 8 wherein said blended value is calculated for a majority of said boundary pixels.

11. The method of claim 8 wherein said step of capturing said first and second fingerprint image frames further includes capturing additional fingerprint image frames periodically at equal intervals t as the finger is rolled across the surface.

12. The method of claim 11 comprising the further steps of:

identifying, within each captured fingerprint image frame, a subset region containing the fingerprint image; and

determining said roll speed based on the relative change in location of said subset regions between one captured fingerprint image frame selected as a roll speed reference frame, and a fingerprint image frame captured after capture of said roll speed reference frame.

13. A method for generating a composite image of a finger moving across an imaging area, comprising the steps of:

(a) capturing a first image frame and a second image frame as the finger moves across the imaging area;

(b) determining a relative change in position of the finger between said first image frame and said second image frame;

(c) identifying a region containing pixels for which there is corresponding fingerprint image data in the first and second image frames; and

(d) for pixels in said region, assigning a blended value to said pixels where said blended value is a function of the values of corresponding pixels in said first and second image frames and said relative change in position of the finger between frames; and

(e) combining said first and second image frames into a composite fingerprint image incorporating said blended value for said pixels.

14. A system for capturing a fingerprint image as a finger is rolled across a platen surface, comprising:

image capture means for capturing a plurality of fingerprint image frames, each captured frame including pixel data representative of a print on the platen surface at a time of capture as the finger is rolled across the platen surface;

blending means for combining said plurality of captured fingerprint image frames into a composite fingerprint image,

wherein said blending means operates to blend pixel data from successive frames as a function of roll speed of the finger across the platen surface.

15. The system of claim 14 wherein said blending means further comprises means for identifying at least one boundary region appearing in a plurality of captured fingerprint image frames and containing corresponding fingerprint image information in said plurality of captured fingerprint image frames and blending pixel data in said boundary region.

16. The system of claim 15 wherein said blending means comprises means for calculating pixel values of a number of pixels in said composite fingerprint image based on the values of corresponding pixels in said plurality of fingerprint image frames, where said number of pixels varies with said roll speed of the finger.

17. The system of claim 16 wherein said blending function assigns a variable weight to data from adjacent frames depending on distance of the pixel from a frame boundary.

18. The system of claim 16 wherein said blending means uses blending to determine the value of a majority of pixels in said boundary region.

19. The system of claim 14 wherein said image capture means includes means for capturing frames periodically at equal intervals t as the finger is rolled across the platen surface.

20. The system of claim 19 further comprising:

means for identifying, within each fingerprint image frame, a subset region containing the fingerprint image; and

means for determining said roll speed based on the relative change in location of said subset regions between one captured fingerprint image frame selected as a roll speed reference frame, and a fingerprint image frame captured after capture of said roll speed reference frame.

21. A system for generating a composite fingerprint image in a rolled fingerprint capture system, comprising:

capture means for capturing a first fingerprint image frame and a second fingerprint image frame as a finger is rolled across an imaging surface;

blending means for identifying at least one boundary pixel representing corresponding fingerprint image data appearing in both the first and second image frames and assigning a blended value to said boundary pixel where said blended value is a function of the values of corresponding pixels in said first and second fingerprint image frames and roll speed of the finger across the imaging surface during said capturing step; and

image processing means for combining said first and second fingerprint image frames into a composite fingerprint image incorporating said blended value for said boundary pixel.

22. The system of claim 21 wherein said blending means calculates said blended value by assigning a variable weight to corresponding pixel data from an adjacent frame depending on distance of the pixel from a frame boundary.

23. The system of claim 21 wherein said blended value is calculated for a majority of said boundary pixels.

24. The system of claim 21 wherein said capture means comprises means for capturing fingerprint image frames periodically at equal intervals t as the finger is rolled across the surface.

25. The system of claim 24 further comprising roll speed determination means for identifying within a captured fingerprint image frame a subset region containing the fingerprint image and determining roll speed based on the relative change in location of said subset region between one captured fingerprint image frame selected as a roll speed reference frame, and a fingerprint image frame captured after capture of said roll speed reference frame.

26. A system for generating a composite image of a finger moving relative to an imaging area, comprising:

capture means for capturing a first image frame and a second image frame as the finger moves relative to the imaging area;

calculating means for determining a relative change in position of the finger between said first image frame and said second image frame;

processing means for identifying a region containing pixels for which there is corresponding fingerprint image data in the first and second image frames and assigning a blended value to said pixels where said blended value is a function of the values of corresponding pixels in said first and second image frames and said relative change in position of the finger between

frames and combining said first and second image frames into a composite fingerprint image incorporating said blended value for said pixels.